

ABSTRACT OF THE DISCLOSURE

To encode a multi-channel digital data with adjustment of the number of bits allocated to each channel for entropy coding of the multi-channel data, there is provided a multi-channel encoder (1) including the number \underline{n} of encoders (10_n) for audio data from the number \underline{n} of channels, and an inter-channel bit allocator (30) that allocates the number of bits (B_n) usable for each channel on the basis of the provisional number of in-use bits (b_n) from each of the encoders (10_n). Each of the encoders (10_n) makes entropy coding on the basis of the provisional number of quantizing steps, outputs the provisional number (b_n) of in-use bits resulted from summing of a code length of each of units of coding, and adjusts the number of in-use bits by updating the quantizing steps correspondingly to the number of bits (B_n) supplied based on the provisional number of in-use bits (b_n). Also, the inter-channel bit allocator (30) allocates the total number of usable bits (S) as the number of bits (B_n) determined correspondingly to a ratio of each provisional number of in-use bits (b_n) with the sum of all the proportional numbers of in-use bits (b_n).